

en prévenir ni nous citer, sa note sur la division nucléaire et l'enkystement d'*Amœba punctata* qui était l'exposé fidèle de tout ce que nous lui avions montré.

Je ne désirais jusqu'ici qu'oublier cette aventure. Mais convient-il que maintenant M. Alexeieff puisse se laisser aller, dans l'inquiétude d'esprit que reflètent ses récents écrits, à confondre son rôle et le mien ?

Paris, le 24 décembre 1912.

Institut Pasteur, Laboratoire de M. le Professeur Mesnil.

Bibliographie

Pour faciliter la confrontation des dates, les travaux sont rangés dans l'ordre chronologique.

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8. New gregarines from the United States.

By Max M. Ellis, University of Colorado.

(With 4 figures.)

eingeg. 2. Januar 1913.

Menosporidae.

Amphorocephalus genus nov.

Protomerite with a constriction near the middle dividing it into two lobes, the anterior of which is the smaller; epimerite longer than wide, but not extremely elongate, widest in its posterior third, narrowed at its junction with the protomerite terminating in a somewhat concave enlargement, the edge of which has a fluted appearance because of the presence of numerous small finger-like processes; deutomerite elongate.

This genus is closely related to the other two genera of the family, *Menospora* Leger and *Hoplorhynchus* Carus.

Type, *Amphorocephalus amphorellus* sp. nov.

As defined this genus includes two species, *Gregarina actinota* Leidy = *Amphorocephalus actinotus* (Leidy), and *Amphorocephalus amphorellus*. They may be distinguished as follows:

- a. Epimerite three or more times as long as wide, terminal disk deeply four-lobed, wider than the epimerite proper. *A. actinotus* (Leidy).
- aa. Epimerite about twice as long as wide, terminal disk nearly circular, with only a slight indication of the four-lobed condition, its width less than that of the epimerite proper.

A. amphorellus sp. nov.

Amphorocephalus amphorellus sp. nov.

Host, *Scolopendra heros* Girard, a Chilopod. Collected May 24 and October 9, 1912, near Boulder, Colorado.

Average specimens, 500 μ to 850 μ ; smallest observed, 78 μ ; largest 970 μ .

Habitat, Intestine.

Length of the protomerite in specimens over 500 μ , 18 to 22 in the length of the deutomerite; maximum width of the protomerite 1,7 to 2,5 in the maximum width of the deutomerite; epimerite about twice the length of the protomerite.

Epimerite flask-shaped, apical disk not as wide as the widest part of the epimerite proper; epimerite persisting in most specimens under 600 μ length.

Protomerite roughly cylindrical, about twice as wide as long, with a distinct constriction near the middle; anterior half narrowed slightly, anteriorly.

Deutomerite elongate, especially in the sporonts; pointed anteriorly.

Sarcocyte clear and fairly thick over the entire gregarine.

Endocyte of the protomerite pale gray and fairly dense; endocyte of the deutomerite, very dense and quite black.

This active gregarine was taken in large numbers from each of the hosts exa-

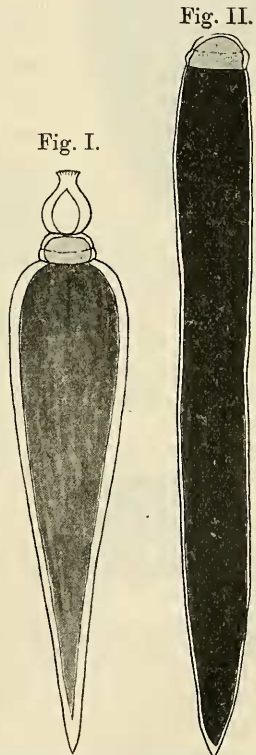


Figure I. Cephalont, 525 μ , of *Amphorocephalus amphorellus*.

Figure II. Sporont, 900 μ , of *Amph. amphorellus*.

mined. It was noticed to bend the posterior portion of the deutomerite quite often.

Stenophoridae.

Stenophora gimbeli sp. nov.¹

Host, *Harpalus pennsylvanicus* Dej., a Carabid beetle. Collected August 28, 1912, Vincennes, Indiana.

Average specimens, 500 μ .

Protomerite 5 to 6 in the total length; width of the protomerite about twice the length of the protomerite; protomerite rounded anteriorly and truncate posteriorly, narrowed at its junction with the deutomerite.

Deutomerite rather ellipsoidal in shape, not distinctly pointed posteriorly.

Epicyte thin but of uniform thickness except over the anterior portion of the protomerite, where the median portion is quite thin; sarcocyte clear and of uniform thickness except in the anterior portion of the protomerite. In this portion of the protomerite it occupies quite a space, (see figure 4), just in front of the endocyte. When the endocyte is brought forward as in figure 3, the sarcocyte of this region is driven into a papilla which results from the expansion of the thin epicyte. Such a process has already been described by the writer² in another species of this genus, *S. cockerellae* Ellis, from Guatemala.

Endocyte of the protomerite very dense along the anterior margin of the protomerite, but quite transparent in the posterior portion of the protomerite; endocyte of the deutomerite very dense and of a black color.

A very active gregarine, capable of bending the posterior portion of the deutomerite very readily.

This species is most closely related to *S. robusta* Ellis, from which it may be distinguished by the large, wide protomerite and general measurements.

New Host Records.

Hirmocystis rigida Hall from *Brachystola magna* Girard. Several specimens of this large grasshopper were examined this fall and but



Figure III. Sporont, 490 μ , *Stenophora gimbeli*. Epicyte expanded.



Figure IV. Anterior portion of *Sten. gimbeli*. Epicyte not expanded.

¹ To Mr. Jacob Gimbel.

² Zool. Anz. Bd. XXXIX. No. 23/24. p. 681—686. 1912.

three were found infected with this gregarine. But a few specimens were found in each host. Boulder, Colorado.

Gigaductus parvus Crawley from *Harpalus pennsylvanicus* Dej. Found in several specimens from Vincennes, Indiana.

Echinomera hispida (Schneider) from *Lithobius coloradensis* (Cockerell). A few specimens of this queer gregarine were found in each of several Chilopods examined. These could not be separated by careful measurements from Schneider's species. In some specimens the ratio of the length of the protomerite to the length of the deutomerite was as low as one to seven, while Schneider's original figures give this as one to eleven or more. Other specimens seemed intermediate between *E. hispida* (Schneider) and *Echinomera horrida* (Leger). It seems probable then that *E. horrida* (Leger) is synonymous with *E. hispida*, leaving a single species in this genus. The occurrence of *E. hispida*, in Boulder is not surprising since *Lithobius forficatus* the host from which Schneider described *E. hispida*, has been introduced here. The Chilopods from which this gregarine was taken were collected near the University Campus, Boulder, Colorado.

9. A Table for Use in the Identification of Birds' Skulls.

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eingeg. 8. Januar 1913.

In 1867 Huxley (2) in a masterly paper pointed out the taxonomic value of the different arrangements of certain bones in the avian palate. It is not intended to enter into a discussion as to whether the skulls thus grouped together under one name form a "natural group" that is satisfactory from the point of view of classification. The literature relating to this discussion may be obtained by reference to the works of Newton (3) and Beddard (1).

Apart from their taxonomic significance then, the names employed by Huxley, with slight modifications, are of considerable descriptive value and the table given below has been found very useful not only in laboratory class work but also as a key in the ready separation into groups of miscellaneous collections of birds' skulls.

The living birds were divided by Huxley into two orders the Rati-
tiae or Struthious Birds and the Carinatae i. e. all the remaining
living birds. The Carinatae were then divided into four separate
groups called the Dromoeognathous, the Schizognathous, the
Desmognathous and the Aegithognathous birds according to the
arrangement of the bones of the palate.